Listing of the Claims:

1. - 23. (Canceled).

24. (Previously Presented) A method of analyzing a patient tissue sample to determine a fraction of diseased tissue while essentially preserving at least one of genomic property, proteomic property, epigenomic property and biophysical property of the tissue sample, the method comprising the steps of:

preparing sections from the tissue sample;

subjecting at least one of the prepared sections to a histological/cytological examination; and

subjecting at least another one of the prepared sections to a non-morphological analytical testing,

wherein in the histological/cytological examination, at least one of a quantitative fraction of diseased tissue or cells and another morphological aspect of the at least one of the prepared sections is determined by an image processing system, and

wherein the determined at least one of a quantitative fraction of diseased tissue or cells and another morphological aspect is used as a reference quantity on which evaluation of a result of the non-morphological analytical testing is based.

25. (Previously Presented) A method of analyzing a patent tissue sample to determine a fraction of diseased tissue while essentially preserving at least one of genomic property,

proteomic property, epigenomic property and biophysical property of the tissue sample, the method comprising the steps of:

taking a sample from the tissue sample;

subjecting at least one portion of the sample to a histological/cytological examination; and

subjecting at least another portion of the sample to a non-morphological analytical testing,

wherein in the histological/cytological examination, at least one of a quantitative fraction of diseased tissue or cells and another morphological aspect of the at least one portion of the sample is determined by an image processing system, and

wherein the determined at least one of a quantitative fraction of diseased tissue or cells and another morphological aspect is used as a reference quantity on which evaluation of a result of the non-morphological analytical testing is based.

26. (Previously Presented) The method of claim 25, wherein the sample is taken by one of a core sampler, an aspiration, and a scraper sampling technique.

27. (Previously Presented) The method of claim 24, wherein in the histological/cytological examination, at least one of appearance and distribution pattern of the diseased tissue or cells in the tissue sample is determined and used as a basis for evaluation of the result of the non-morphological analytical testing.

28. (Previously Presented) The method of claim 25, wherein in the histological/cytological examination, at least one of appearance and distribution pattern of the diseased tissue or cells in the tissue sample is determined and used as a basis for evaluation of the result of the non-morphological analytical testing.

29. (Previously Presented) The method of claim 24, wherein the sections are prepared directly from the tissue sample when the tissue sample is fresh.

30. (Previously Presented) The method of claim 25, wherein the sample is taken directly from the tissue sample when the tissue sample is fresh.

31. (Previously Presented) The method of claim 24, wherein the tissue sample is frozen before the sections are prepared.

32. (Previously Presented) The method of claim 25, wherein the tissue sample is frozen before the sample is taken.

33. (Previously Presented) The method of claim 24, wherein the tissue sample is mounted on a slide and frozen immediately after the tissue sample is removed from a patient, and the sections are prepared from the frozen tissue sample with a microtome.

34. (Previously Presented) The method of claim 33, wherein after the sections are prepared, the tissue sample is left on the slide so that further sections can be prepared from the tissue sample.

35. (Previously Presented) The method of claim 34, wherein the slide is reproducibly placed in the microtome so that the tissue sample has the same orientation relative to the microtome in repeated preparations of sections.

36. (Previously Presented) The method of claim 24, wherein two of the prepared sections are subjected to the histological/cytological examination, and the two of the prepared sections are selected so that the at least another one of the prepared sections subjected to the non-morphological analytical testing is between the two of the prepared sections in situ.

37. (Previously Presented) The method of claim 25, wherein two portions of the sample are subjected to the histological/cytological examination, and the two portions are selected so that the at least another portion of the sample subjected to the non-morphological analytical testing is located between the two portions in situ.

38. (Previously Presented) The method of claim 24, wherein said method is used for intra-operative or peri-operative clinical diagnosis or for experimental pathological analysis.

39. (Previously Presented) The method of claim 25, wherein said method is used for intra-operative or peri-operative clinical diagnosis or for experimental pathological analysis.

40. (Previously Presented) The method of claim 24, wherein the non-morphological analytical testing comprises detecting bio-molecules or determining a biophysical characteristic of the at least another one of the prepared sections, the bio-molecules including genomic DNA, cDNA, mRNA, epigenomic methylation pattern, proteins, viral or bacterial nucleic acids, infectious prions, nucleic acids or proteins of pathogenic parasites.

41. (Previously Presented) The method of claim 25, wherein the non-morphological analytical testing comprises detecting bio-molecules or determining a biophysical characteristic of the at least another portion of the sample, the bio-molecules including genomic DNA, cDNA, mRNA, epigenomic methylation pattern, proteins, viral or bacterial nucleic acids, infectious prions, nucleic acids or proteins of pathogenic parasites.

42. (Previously Presented) The method of claim 24, wherein the non-morphological analytical testing comprises determination of a quantity which makes it possible to determine at least one of a fraction of diseased tissue and a fraction of another tissue component in the tissue sample, and the at least one of a fraction of diseased tissue and a fraction of another tissue component so determined is used quantitatively as a basis of evaluation of the result of the non-morphological analytical testing.

43. (Previously Presented) The method of claim 25, wherein the non-morphological analytical testing comprises determination of a quantity which makes it possible to determine at least one of a fraction of diseased tissue and a fraction of another tissue component in the tissue sample, and the at least one of a fraction of diseased tissue and a fraction of another tissue

component so determined is used quantitatively as a basis of evaluation of the result of the non-morphological analytical testing.

44. (Previously Presented) The method of claim 24, wherein one of a micro-array and a suspension array is used in the non-morphological analytical testing.

45. (Previously Presented) The method of claim 25, wherein one of a micro-array and a suspension array is used in the non-morphological analytical testing.

46. (Previously Presented) The method of claim 40, wherein the bio-molecules to be detected by the non-morphological analytical testing are subjected to a labeling step.

47. (Previously Presented) The method of claim 40, wherein the nucleic acids to be detected by the non-morphological analytical testing are subjected to an amplification step.

48. (Previously Presented) The method of claim 41, wherein the bio-molecules to be detected by the non-morphological analytical testing are subjected to a labeling step.

49. (Previously Presented) The method of claim 41, wherein the nucleic acids to be detected by the non-morphological analytical testing are subjected to an amplification step.

50. (Previously Presented) The method of claim 24, wherein the histological/cytological examination comprises at least one staining step.

51. (Previously Presented) The method of claim 25, wherein the histological/cytological examination comprises at least one staining step.

52. (Previously Presented) The method of claim 24, wherein the histological/cytological examination comprises at least one of an immunohistochemical step and an in situ hybridization step.

53. (Previously Presented) The method of claim 25, wherein the histological/cytological examination comprises at least one of an immunohistochemical step and an in situ hybridization step.

54. (Previously Presented) The method of claim 24, wherein at least two of the sections are each subjected to different histological/cytological examinations.

55. (Previously Presented) The method of claim 24, wherein said method is used to develop a tumor data bank.

56. (Previously Presented) The method of claim 25, wherein said method is used to develop a tumor data bank.

57. (Previously Presented) The method of claim 24, wherein said method is used to develop an individualized cancer therapy.

58. (Previously Presented) The method of claim 25, wherein said method is used to develop an individualized cancer therapy.

59. (Previously Presented) The method of claim 24, wherein said method is used to adjust a patient's individualized cancer therapy.

60. (Previously Presented) The method of claim 25, wherein said method is used to adjust a patient's individualized cancer therapy.